UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

JAN I 8 1985

MEMORANDUM

SUBJECT: Acceptable Levels of Residual Contaminants in the EPA Incinerator Residues

FROM: Jack W. McGraw Acting Assistant Administrator (WH-562A)

TO: Morris Kay
Regional Administrator
EPA Region VII

On October 22, 1984, Lee Thomas and John Moore sent you a memorandum which indicated that the dioxin listing regulation would not be promulgated and in effect until the summer of 1985[1]/ (see Attachment). As a result, a formal RCRA delisting petition for the residues to be generated during the trial burn of dioxin-contaminated wastes to be held in Missouri in January and March of 1985 using EPA's mobile incinerator could not be processed.[2]/ Rather, any action to define the "non-hazardousness" of the incinerator residues would (until July 15, 1985) be subject to the TSCA "Vertac Rule." (See 40 CFRPart 775.)

A delisting action for the incineration residues that will be generated during the trial burns is considered very important by your staff as well as ORD so that these wastes can be disposed of; members of your staff have indicated that the residue must be shown to contain insignificant levels of the dioxins.

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1. The dioxin listing regulation was published in the Federal Register on January 14, 1985 and becomes effective on July 15, 1985.

2 This, of course, was based on the premise that no RCRA hazardous wastes would be incinerated during the trial burn. Since that time, we have learned that the contaminated.lagoon sludge from Syntex' Springfield plant scheduled to be burned during Test #3 of the Trial Burn contains a RCRA listed hazardous waste, unless it is formally delisted under 40 CFR 260.20.

The same memo provided the Region general guidance on the type of information that should be provided as part of the TSCA notification requirement to determine whether or not the residues should be considered non-hazardous. In addition, we provided you with general criteria for determining whether or not the wastes would present a problem if it were handled in a non-Subtitle C facility.

As a follow-up to the October 22, 1984 memo and in response to the information provided in your TSCA Vertac submission (dated December 20, 1984), we are providing more detailed guidance on:

- the specific toxic constituents which should be analyzed for in the incineration residues--namely, the kiln ash, the scrubber water, the CHEAF filter medium, and other solids, and

- the levels for each toxicant below which we believe the waste can be managed at a non-Subtitle C facility without presenting a substantial hazard to human health or the environment.

In particular, based on the information provided in your submission and in subsequent phone conversations with members of your staff, we have identified approximately 20 toxic constituents which are present in the wastes to be incinerated or may be present in the incineration residues as a result of the incineration process. See Table 1. In addition, based on the toxicity of these contaminants, the matrix of the waste, as well as the quantity of waste generated, we believe that if the residues contain less than the values noted in Table 2, the waste can be managed at a non-Subtitle C facility without presenting a hazard to human health or the environment.

As you may be aware, the delisting program is currently developing an approach to evaluating delisting petitions, which includes a quantitative analysis. This approach has not yet been fully developed; therefore, the numbers provided in Table 2 should be considered only interim (i.e., although the same general factors were considered in developing the numbers in Table 2 as are used in the delisting approach, these factors were considered in a qualitative rather than a quantitative manner). Accordingly, the levels included in Table 2 may change as a result of further development of the delisting approach. We still believe, however, that the levels provided in Table 2 are environmentally protective (i.e., in selecting the levels for the various toxic constituents, we made very conservative assumptions).

The levels specified in Table 2, therefore, should be used only to evaluate the residue generated from Test #2 during the trial burn (i.e., when burning the dioxin-contaminated still bottoms, the waste in Tank T-l, and the dioxin-contaminated soil from the Denney Farm site.) Any residues that are

generated from the field demonstration or any other waste would have to be considered separately. In addition, once the dioxin listing regulation becomes effective, any person who wants to handle their waste as a non-hazardous waste must submit a formal delisting petition for consideration.

I hope this information is helpful. If you have any questions or comments, please contact Matthew A. Straus, Chief of the Waste Identification Branch. He can be reached at 8-475-855l.

Attachments

cc: Bernard Goldstein
John Skinner
Mike Cook
Eileen Claussen
Matt Straus
Jim Poppiti
Judy Bellin
Conrad Kleveno
Paul Des Rosiers
Ralph Hael
David Wagoner
Frank Freestone

Table I

List of Toxic Constituents To Be Analyzed For in the Incineration Residues

2, 3,4-Trichlorophenol
2, 4,5-Trichlorophenol
2, 4, 6-Trich1orophenol
2,5-Dichlorophenol
3, 4-Dichlorophenol
2, 3, 4 5Tetrachloropheno1
2, 3, 4, 6-Tetrachlorophenol
1, 2, 4, 5-Tetrachlorobenzene
1, 2, 3, 5-Tetrachlorobenzene
Hexachlorophene
Polychlorinated biphenyls (total)
Benzo (a) pyrene
Benzo (a) anthracene
Chrysene
Dibenzo(a,h) anthracene
Indeno (l, 2, 3-c, d)pyrene
Benzo (b) fluoranthene

Table 2

Levels of the Specific Toxic Constituents

Toxic Constituent	Concentration	
	Solids	Scrubber Water
Dioxins/Dibenzofurans	1 ppb*	10 ppt
2, 3, 4-Trichlorophenol	100 ppm	10 ppm
2, 4, 5-Trichlorophenol	100 ppm	10 ppm
2, 4, 6-Trichlorophenol	1 ppm	50 ppb
2, 5-Dichlorophenol	350 ppb	15 ppb
3 ,4-Dichlorophenol	100 ppm	10 ppm
2, 3 , 4, 5-Tetrachlorophenol	1 ppm	50 ppb
2, 3, 4, 6-Tetrachlorophenol	1 ppm	50 ppb
1,2, 4, 5-Tetrachlorobenzene	100 ppm	10 ppm
1, 2, 3, 5-Tetrachlorobenzene	100 ppm	10 ppm
Hexachlorophene	200 ppm	5 ppm
Polychlorinated Biphenyls	50 ppm	1 ppm
Benz (a) pyrene	5 ppm	10 ppb
Benz (a) anthracene	5 ppm	10 ppb
Chrysene	50 ppm	1 ppm
Dibenzo (a_1h) anthracene	5 ppm	10 ppb
Indeno (1,2, 3-c,d) pyrene	5 ppm	10 ppb
Benz (b) fluroanthene	5 ppm	10 ppb

* A conservative estimate of the level of concern is a weighted sum of the concentration of the tetra-, penta-, and hexachlorinated dioxins and dibenzofurans. The relative toxic potencies are given in Attachment 2, and represent current best estimates of the relative toxicities of the twelve “2,3,7,8-substituted” congeners. In the absence of isomer-specific data, it is prudent to consider all the isomers of a homologuous group to be the “2,3,7,8-substituted” conqeuers.